

REMARKS

Favorable reconsideration and allowance of the subject application are respectfully requested in view of the following remarks.

Summary of the Office Action

Claims 1-4 stand rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1-4 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Summary of the Response to the Office Action

Applicants have amended claims 1-4 by this amendment. Claims 1-4 remain currently pending.

Claim Rejections Under 35 U.S.C. §112

Claims 1-4 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, the Office Action asserts that the specification does not disclose how to make “nF/cm²” as a unit for capacitance, especially since the cited prior art allegedly indicates capacitance having only “F,” “uF,” “nF” or “pF” as unit.

Claims 1-4 also stand rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite. In particular, the term of “capacitance is in...nF/cm²,” as recited in claims 1-4 allegedly gives a meaning repugnant to the usually meaning of the term “capacitance” (unit of capacitance).

Accordingly, Applicants have amended claims 1-4 by replacing the term "storage capacitance" with "unit storage capacitance" -- to address the Examiner's concerns.

Applicants respectfully submit that one skilled in the art would recognize the term "unit storage capacitance" as referring to the storage capacitance ^{per unit area of a pixel area} and accordingly, the unit "nF/cm²," is properly recited in claims 1-4. Thus, it is respectfully submitted that claims 1-4 fully comply with the requirements of 35 U.S.C. § 112, second paragraph.

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true*

In addition, Applicants respectfully submit that one skilled in the art would recognize that a pixel area is generally not fixed but variable for each product and when the pixel area for each product is specified, "storage capacitance", e.g., nF, can generally be obtained by multiplying the unit storage capacitance, e.g., nF/cm², by the specified pixel area, e.g., cm². Therefore, it is respectfully submitted that "unit storage capacitance" and its unit, e.g., nF/cm², are concepts that can be easily understood by one skilled in the art. Thus, it is respectfully submitted that the subject matter of claims 1-4 is fully supported by the specification, for example, in the drawings, for enabling one skilled in the art to make and/or use the invention.

Accordingly, Applicants respectfully request that the rejections of claims 1-4 under 35 U.S.C. § 112, first paragraph and second paragraph, be withdrawn.

Conclusion

In view of the foregoing, withdrawal of the rejections and allowance of the pending claims are earnestly solicited. Should there remain any questions or comments regarding this response or the application in general, the Examiner is urged to contact the undersigned at the number listed below.


Attached hereto is a marked-up version of the changes made by the current amendment.

The attachment is captioned "Version with markings to show changes made."

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. 1.136 not accounted for above, such extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 1-4 have been amended as follows:

1. (Amended) A liquid crystal display including liquid crystal pixel cells arranged at each intersection between a plurality of gate lines and a plurality of data lines, comprising:

a thin film transistor associated with each pixel cell;

a storage capacitor; and

a smectic liquid crystal between an upper substrate and a lower substrate, wherein the smectic liquid crystal has spontaneous polarization in a range of [approximately] $2\text{nC}/\text{cm}^2$ to $100\text{nC}/\text{cm}^2$ and a unit storage capacitance is in a range of [approximately] $1\text{nF}/\text{cm}^2$ to $13\text{nF}/\text{cm}^2$ for optimizing transmittance depending on the spontaneous polarization of the smectic liquid crystal.

2. (Amended) The liquid crystal liquid of Claim 1, wherein the spontaneous polarization is in a range of [approximately] $2\text{nC}/\text{cm}^2$ to $10\text{nC}/\text{cm}^2$ and the unit storage capacitance is in a range of [approximately] $1\text{nF}/\text{cm}^2$ to $4.5\text{nF}/\text{cm}^2$.

3. (Amended) The liquid crystal display of Claim 1, wherein the spontaneous polarization is in a range of [approximately] $10\text{nC}/\text{cm}^2$ to $70\text{nC}/\text{cm}^2$ and the unit storage capacitance is in a range of [approximately] $4\text{nF}/\text{cm}^2$ to $7\text{nF}/\text{cm}^2$.

4. (Amended) The liquid crystal display of Claim 1, wherein the spontaneous polarization is in a range of [approximately] $70\text{nC}/\text{cm}^2$ to $100\text{nC}/\text{cm}^2$ and the unit storage capacitance is in a range of [approximately] $5\text{nF}/\text{cm}^2$ to $13\text{nF}/\text{cm}^2$.